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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/536,739	05/27/2005	Jens Spille	PD020112	4699
24498 7590 09/21/2007 JOSEPH J. LAKS, VICE PRESIDENT THOMSON LICENSING LLC PATENT OPERATIONS PO BOX 5312 PRINCETON, NJ 08543-5312			EXAMINER LERNER, MARTIN	
			ART UNIT 2626	PAPER NUMBER
			MAIL DATE 09/21/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/536,739

Applicant(s)

SPILLE ET AL.

Examiner

Martin Lerner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 to 9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 to 9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:

On page 1, line 33, "describes" should be "describe".

On page 2, lines 18 to 20, Applicants are requested to delete references to the claims. Any reference to the claims in the Specification may not reflect the claim numbering at the time of issue, so that current references to the claims may be inaccurate.

On page 6, line 15, "to" should be inserted before "one".

On page 6, line 17, "to" should be inserted after "similar".

On page 6, line 36, "than" should be "as".

On page 17, lines 19 to 20 are not a grammatical sentence.

On page 8, line 8, "what" should be "which".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 3 to 5, and 7 to 9 are rejected under 35 U.S.C. 102(e) as being anticipated by *Lin et al.* ('018).

Regarding independent claims 1 and 5, *Lin et al.* ('018) discloses a method of encoding and decoding a presentation of audio data, comprising:

“generating a parametric description of a sound source including information which allows spatialization in a 2D coordinate system” – video image 50 is shown containing two video objects 52, 54 that were previously extracted and matched with associated sound sources (e.g., sound source 1 and sound source 2); video object 52 is a person located in the lower right portion of the video image, and having a face located at column 6, row 3 of the two dimensional grid; video object 54 is a person located in the upper left hand portion of video image 50 and having a face located in column 1, row 1 of the two dimensional grid (column 4, lines 30 to 55: Figure 2); associating a sound source with a video object on a two dimensional grid is equivalent to “generating a parametric description of a sound source” that is spatialized in the two dimensional plane;

“linking the parametric description of said sound source with the audio signals of said sound source” – audio-video information system 12 includes sound source extraction system 26, video object extraction system 28, matching system 30, and object position system 36; sound source extraction system 26 extracts different sound sources from the mono audio data 22; once the various sound sources from the mono audio data 22 are extracted, they are separately identified, e.g., as individual sound

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source objects for further processing; once extracted video and sound source data objects are obtained, they are fed to matching system 30, which attempts to match each sound source with a video object using any known matching technique (column 3, lines 9 to 41: Figure 1); thus, a parametric description of video objects in a 2D grid is linked to audio signals of sound sources by matching video objects to audio objects;

“comprising adding an additional 1D value to said parametric description which allows in a 2D visual context a spatialization of said sound source in a 3D domain” – in order to determine position data regarding a third dimension (i.e., depth), it is determined that video object 52 is closer to the viewer than video object 54; thus, the source associated with video object 52 can be assigned to a channel, or mix of channels, that would provide a sound image that is nearby the viewer, while the sound source associated with video object 54 could be assigned to a mix of audio channels that provide a distant sound image (column 4, line 56 to column 5, line 8: Figure 2); decoding of coded data from sound imaging system 10 is played by sound reproduction system 17, which receives and separates the coded sound imaging data (column 2, lines 11 to 22; column 2, line 63 to column 3, line 2).

Regarding claims 3, 4, 7, and 8, *Lin et al. ('018)* discloses that, in order to determine position data regarding a third dimension (i.e., depth), it is determined that video object 52 is closer to the viewer than video object 54; thus, the source associated with video object 52 can be assigned to a channel, or mix of channels, that would provide a sound image that is nearby the viewer, while the sound source associated with video object 54 could be assigned to a mix of audio channels that provide a distant

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sound image (column 4, line 56 to column 5, line 8: Figure 2); video objects are located in a coordinate system of a two dimensional grid ("the screen plane"), and a third dimension represents a depth of the sound source ("a depth dimension perpendicular to said screen plane"); motion analysis system 34 matches sound sources to moving video objects ("the movement of a graphical object in the screen plane"), e.g., a moving car image could be matched to a car engine sound source (column 4, lines 14 to 22: Figure 1); a 3-D location system includes identifying a position of video objects on a two dimensional grid, and determining position data regarding a third (e.g., depth) dimension ("a transformation of said 2D coordinate system values to said 3 dimensional positions") (column 4, lines 30 to 61: Figure 2).

Regarding claim 9, *Lin et al. ('018)* discloses a corresponding apparatus (Figure 1).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Lin et al. ('018)* in view of *Scheirer et al. ("AudioBIFS: Describing Audio Scenes with the MPEG-4 Multimedia Standard")*.

*Lin et al.* ('018) notes application to MPEG-4 (column 3, lines 31 to 33), and coding separate sound sources as separate audio objects (column 3, lines 22 to 25), but does not expressly disclose sound sources are described by a scene description having first nodes corresponding to the separate audio objects and second nodes describing the presentation of the audio objects, and wherein a field of a second node defines the 3D spatialization of a sound source. However, it is known to represent sound sources as first nodes and presentation characteristics of sound sources as second nodes in MPEG-4 as taught by *Scheirer et al.* Specifically, *Scheirer et al.* teaches that AudioBIFS in MPEG-4 represent sound scenes, where an AudioClip node provides audio data that can be referenced by Sound nodes. An AudioClip can be thought of as a property of the Sound node. The Sound node specifies the location (spatial position) of a sound object in a VRML scene, and a spatialize field specifies whether or not the audio object will be spatialized when presented. (II. MPEG-4 Audio and AudioBIFS: C. Sound Scenes in VRML: Pages 238 to 240: Figures 1 and 3) An objective is to enable concise transmission of audiovisual scenes, and provide a unified framework for sound scenes that use streaming audio and three-dimensional (3-D) spatialization. (I. Introduction: Page 237) It would have been obvious to one having ordinary skill in the art to represent sound sources in a scene description with nodes corresponding to audio objects and presentation of audio objects includes spatialization as taught by *Scheirer et al.* in an audio encoding and decoding system of *Lin et al.* ('018) for a purpose of enabling concise transmission and a unified framework of sound scene spatialization in MPEG-4.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Lin et al. ('680), Philips ('017), and Philips ('553) disclose related art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (571) 272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

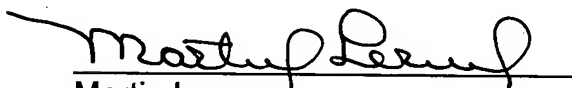


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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ML

9/11/07

A handwritten signature in black ink, appearing to read "Martin Lerner", written over a horizontal line.

Martin Lerner  
Examiner  
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